

Appendix A

Primacy Revision Crosswalk

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FEDERAL REQUIREMENT	FEDERAL CITATION	STATE CITATION (DOCUMENT TITLE, PAGE NUMBER, SECTION/PARAGRAPH)	DIFFERENT FROM FED. REQUIREMENT? EXPLAIN ON SEPARATE SHEET
Subpart H—Filtration and Disinfection			
§141.76 RECYCLE PROVISIONS			
Applicability. All subpart H systems that employ conventional filtration or direct filtration treatment and that recycle spent filter backwash water, thickener supernatant, or liquids from dewatering processes must meet the following requirements:	§141.76 (a)		
Reporting. A system must notify the state in writing by December 8, 2003, if the system recycles spent filter backwash water, thickener supernatant, or liquids from dewatering processes. This notification must include, at a minimum:	§141.76 (b)		
<ul style="list-style-type: none"> ▶ A plant schematic showing the origin of all flows which are recycled (including, but not limited to, spent filter backwash water, thickener supernatant, and liquids from dewatering processes), the hydraulic conveyance used to transport them, and the location where they are reintroduced back into the treatment plant. 	§141.76 (b) (1)		
<ul style="list-style-type: none"> ▶ Typical recycle flow in gallons per minute (gpm), the highest observed plant flow experienced in the previous year (gpm), design flow for the treatment plant (gpm), and state-approved operating capacity for the plant where the state has made such determinations. 	§141.76 (b) (2)		
Treatment technique requirement. Any system that recycles spent filter backwash water, thickener supernatant, or liquids from dewatering processes must return these flows through the processes of a system's existing conventional or direct filtration system as defined in §141.2 or at an alternate location approved by the state by June 8, 2004. If capital improvements are required to modify the recycle location to meet this requirement, all capital improvements must be completed no later than June 8, 2006.	§141.76 (c)		
Recordkeeping. The system must collect and retain on file recycle flow information for review and evaluation by the state beginning June 8, 2004.	§141.76 (d)		

FEDERAL REQUIREMENT	FEDERAL CITATION	STATE CITATION (DOCUMENT TITLE, PAGE NUMBER, SECTION/PARAGRAPH)	DIFFERENT FROM FED. REQUIREMENT? EXPLAIN ON SEPARATE SHEET								
Appendix B to Subpart Q of Part 141 - Standard Health Effects Language for Public Notification											
<p>B. Standard Health Effects Language for Surface Water Treatment Rule (SWTR), Interim Enhanced Surface Water Treatment Rule (IESWTR) and Filter Backwash Recycling Rule (FBRR) violations:</p> <table border="0" data-bbox="191 487 934 560"> <tr> <td style="padding-right: 20px;">Contaminant</td> <td style="padding-right: 20px;">MCLG</td> <td style="padding-right: 20px;">MCL</td> <td>Standard Health Effects</td> </tr> <tr> <td></td> <td style="padding-right: 20px;">mg/L</td> <td style="padding-right: 20px;">mg/L</td> <td>Language for PN</td> </tr> </table> <p>7. Cryptosporidium (IESWTR/FBRR)</p>	Contaminant	MCLG	MCL	Standard Health Effects		mg/L	mg/L	Language for PN	B.7		
Contaminant	MCLG	MCL	Standard Health Effects								
	mg/L	mg/L	Language for PN								

PRIVACY REVISION CROSSWALK FOR THE FBRR

FEDERAL REQUIREMENT	FEDERAL CITATION	EXPLANATION OF STATE POLICIES AND PROCEDURES
§ 142.14 RECORDS KEPT BY STATES		
Section 141.76- Any decisions made to approve alternate recycle locations, require modifications to recycle return locations, or require modifications to recycle practices.	§ 142.14 (a) (4) (ii) (A) (9)	
§ 142.16 SPECIAL PRIVACY REQUIREMENTS		
Section 141.76(d) of this chapter- States must have the proper rules and authority to use Sanitary Surveys, comprehensive performance evaluations (CPEs), other inspections, or other activities to evaluate recycle data maintained by systems under § 141.76(d) of this chapter and require modifications to recycle practices.	§ 142.16 (i) (1) (i)	

Appendix B

FBRR Regulatory Language

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(3) Average and maximum backwash flow rate through the filters and the average and maximum duration of the filter backwash process in minutes.

(4) Typical filter run length and a written summary of how filter run length is determined.

(5) The type of treatment provided for the recycle flow.

(6) Data on the physical dimensions of the equalization and/or treatment units, typical and maximum hydraulic loading rates, type of treatment chemicals used and average dose and frequency of use, and frequency at which solids are removed, if applicable.

5. Appendix A to Subpart Q of Part 141 is amended by adding a new entry “8.” in numerical order under I.A. to read as follows:

APPENDIX A TO SUBPART Q OF PART 141.-NPDWR VIOLATIONS AND OTHER SITUATIONS REQUIRING PUBLIC NOTICE¹

Contaminant	MCL/MRDL/TT violations ²		Monitoring & testing procedure violations	
	Tier of public notice required	Citation	Tier of public notice required	Citation
I. Violations of National Primary Drinking Water Regulations (NPDWR): ³				
A. Microbiological Contaminants				
*	*	*	*	*
8. Filter Backwash Recycling Rule violations	2	141.76	3	141.76
*	*	*	*	*

Appendix A - Endnotes

1. Violations and other situations not listed in this table (e.g., reporting violations and failure to prepare Consumer Confidence Reports), do not require notice, unless otherwise determined by the primacy agency. Primacy agencies may, at their option, also require a more stringent public notice tier (e.g., Tier 1 instead of Tier 2 or Tier 2 instead of Tier 3) for specific violations and situations listed in this Appendix, as authorized under §141.202(a) and §141.203(a).

2. MCL--Maximum contaminant level, MRDL--Maximum residual disinfectant level, TT--Treatment technique.

3. The term Violations of National Primary Drinking Water Regulations (NPDWR) is used here to include violations of MCL, MRDL, treatment technique, monitoring, and testing procedure requirements.

* * * * *

6. Appendix B to Subpart Q of Part 141 is amended by revising B and entry “7.” under B. to read as follows:

APPENDIX B TO SUBPART Q OF PART 141.-STANDARD HEALTH EFFECTS LANGUAGE FOR PUBLIC NOTIFICATION

Contaminant	MCLG ¹ mg/L	MCL ² mg/L	Standard health effects language for public notification
National Primary Drinking Water Regulations (NPDWR):	*	*	*
B. Surface Water Treatment Rule (SWTR), Interim Enhanced Surface Water Treatment Rule (IESWTR) and Filter Backwash Recycling Rule (FBRR) violations:	*	*	*
7. Cryptosporidium (IESWTR/FBRR).	*	*	*

Appendix B--Endnotes

1. MCLG--Maximum contaminant level goal
2. MCL--Maximum contaminant level

* * * * *

PART 142-NATIONAL PRIMARY DRINKING WATER REGULATIONS IMPLEMENTATION

7. The authority citation for Part 142 continues to read as follows:

Authority: 42 U.S.C. 300f, 300g-1, 300g-2, 300g-3, 300g-4, 300g-5, 300g-6, 300j-4, 300j-9, and 300j-11.

* * * * *

8. Section 142.14 is amended by removing the word “and” at the end of the paragraph (a)(4)(ii)(A)(7) and revising paragraph (a)(4)(ii)(A)(8) and adding paragraph (a)(4)(ii)(A)(9) to read as follows:

§ 142.14 Records kept by States.

- (a) ***
- (4) ***
- (ii) ***
- (A) ***

(8) Section 141.75(b)(2)(iv) - Any decision to allow reduced reporting by a filtered public water system; and

(9) Section 141.76 - Any decisions made to approve alternate recycle locations, require modifications to recycle return locations, or require modifications to recycle practices.

* * * * *

9. Section 142.16 is amended by adding paragraph (i) to read as follows:

§ 142.16 Special primacy requirements.

* * * * *

(i) *Requirements for States to adopt 40 CFR part 141, §141.76 Recycle Provisions.* In addition to the general primacy requirements enumerated elsewhere in this part, including the requirement that the State provisions are no less stringent than the federal requirements, an application for approval of a State program revision that adopts 40 CFR part 141, §141.76 Recycle Provisions must contain the information specified in this paragraph:

(1) State practices or procedures. (i) Section 141.76(d) of this chapter - States must have the proper rules and authority to use Sanitary Surveys, comprehensive performance evaluations (CPEs), other inspections, or other activities to evaluate recycle data maintained by systems under §141.76(d) and require modifications to recycle practices.

(ii) [reserved]

(2) [reserved]

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Appendix C

Rule Fact Sheet / Quick Reference Guide / Rule Summary for Systems

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Fact Sheet: Filter Backwash Recycling Rule

The Filter Backwash Recycling Rule (FBRR) addresses the return of certain recycle streams to a conventional or direct filtration facility's treatment process and is intended to reduce the opportunity for recycle practices to adversely affect plant performance. It is expected to prevent microbes such as Cryptosporidium from passing through filters into finished drinking water.

IS YOUR PWS AFFECTED?

Your PWS must comply with the FBRR if it is a surface water or GWUDI* system that –

- Employs conventional or direct filtration; and
- Recycles spent filter backwash water, thickener supernatant, or liquids from dewatering processes.

- ✓ Conventional filtration - a series of processes including coagulation, flocculation, sedimentation, and filtration resulting in substantial particulate removal. Conventional filtration is the most common type of filtration.
- ✓ Direct filtration - a series of processes including coagulation and filtration, but excluding sedimentation, and resulting in substantial particulate removal. Typically, direct filtration can be used only with high-quality raw water that has low levels of turbidity and suspended solids.
- ✓ Spent filter backwash water - a stream containing particles that are dislodged from filter media when water is forced back through a filter (backwashed) to clean the filter.
- ✓ Thickener supernatant - a stream containing the decant from a sedimentation basin, clarifier or other unit that is used to treat water, solids, or semi-solids from the primary treatment processes.
- ✓ Liquids from dewatering processes - a stream containing liquids generated from a unit used to concentrate solids for disposal.

* Ground Water Under the Direct Influence (of surface water)

WHAT DOES THE RULE REQUIRE?

The FBRR requires affected systems to report recycle practices to the state, maintain specific records, and return recycle to an appropriate location.

What Must I Report?

You must notify the state, in writing, that you practice recycle by December 8, 2003. The notification must include, at a minimum, the following information:

- ✓ A plant schematic showing the origin of all recycle streams, the hydraulic conveyance used to transport them, and the location where they are recycled back into the plant.
- ✓ Typical recycle flow in gallons per minute (gpm), the highest observed plant flow experienced in the previous year (gpm), design flow for the treatment plant (gpm), and state-approved operating capacity of the plant where the state has made such determinations.

Where Must I Return My Recycle Streams?

Spent filter backwash water, thickener supernatant, and liquids from dewatering processes must be returned through the processes of the existing conventional or direct filtration treatment plant or at an alternate location approved by the state by June 8, 2004.

What if I don't recycle to a point which allows processing of the water through the processes of my conventional or direct filtration plant?

You must either:

- 1) request approval from the state to recycle to an alternative location, or
- 2) begin capital improvements to return your recycle stream to a state-approved location.

If capital improvements are necessary for compliance, you must complete all improvements by June 8, 2006.

What Other Information Must I Collect?

You must collect and maintain information on specific recycle and backwash flow, frequency, and duration and treatment data. The information must be available for state review and evaluation beginning June 8, 2004. The information may be used as the basis to require modification of your recycle location or recycle practices if it is determined your practices may adversely affect the ability of your system to achieve 2-log, or 99 percent, *Cryptosporidium* removal. This information includes:

- A copy of the recycle notification and information submitted to the state .
- A list of all recycle flows and the frequency with which they are returned.
- The average and maximum backwash flow rate through the filters and the average and maximum duration of the filter backwash process in minutes.
- A typical filter run length and a written summary of how filter run-length is determined.
- The type of treatment provided for the recycle stream.
- Data on the physical dimensions of the equalization and/or treatment units, typical and maximum hydraulic loading rates, type of treatment chemicals used and average dose and frequency of use, and frequency at which solids are removed, if applicable.

For more information, contact EPA's Safe Drinking Water Hotline [800-426-4791], or see the EPA website <http://www.epa.gov/safewater/mdbp/mdbp.html>

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Filter Backwash Recycling Rule: A Quick Reference Guide



Overview of the Rule	
Title	Filter Backwash Recycling Rule (FBRR) 66 FR 31086, June 8, 2001, Vol. 66, No. 111
Purpose	Improve public health protection by assessing and changing, where needed, recycle practices for improved contaminant control, particularly microbial contaminants.
General Description	The FBRR requires systems that recycle to return specific recycle flows through all processes of the system's existing conventional or direct filtration system or at an alternate location approved by the state.
Utilities Covered	Applies to public water systems that use surface water or ground water under the direct influence of surface water, practice conventional or direct filtration, and recycle spent filter backwash, thickener supernatant, or liquids from dewatering processes.

Public Health Benefits	
Implementation of FBRR will result in . . .	<ul style="list-style-type: none"> ▶ Reduction in risk of illness from microbial pathogens in drinking water, particularly <i>Cryptosporidium</i>.
Estimated impacts of the FBRR include . . .	<ul style="list-style-type: none"> ▶ FBRR will apply to an estimated 4,650 systems serving 35 million Americans. ▶ Fewer than 400 systems are expected to require capital improvements. ▶ Annualized capital costs incurred by public water systems associated with recycle modifications are estimated to be \$5.8 million. ▶ Mean annual cost per household is estimated to be less than \$1.70 for 99 percent of the affected households and between \$1.70 and \$100 for the remaining one percent of affected households.

Conventional and Direct Filtration
<ul style="list-style-type: none"> ▶ Conventional filtration, as defined in 40 CFR 141.2, is a series of processes including coagulation, flocculation, sedimentation, and filtration resulting in substantial particulate removal. Conventional filtration is the most common type of filtration. ▶ Direct filtration, as defined in 40 CFR 141.2, is a series of processes including coagulation and filtration, but excluding sedimentation, and resulting in substantial particulate removal. Typically, direct filtration can be used only with high-quality raw water that has low levels of turbidity and suspended solids.



Recycle Flows

- ▶ **Spent Filter Backwash Water** - A stream containing particles that are dislodged from filter media when water is forced back through a filter (backwashed) to clean the filter.
- ▶ **Thickener Supernatant** - A stream containing the decant from a sedimentation basin, clarifier or other unit that is used to treat water, solids, or semi-solids from the primary treatment processes.
- ▶ **Liquids From Dewatering Processes** - A stream containing liquids generated from a unit used to concentrate solids for disposal.

Critical Deadlines and Requirements

For Drinking Water Systems

December 8, 2003	Submit recycle notification to the state.
June 8, 2004	Return recycle flows through the processes of a system's existing conventional or direct filtration system or an alternate recycle location approved by the state (a 2-year extension is available for systems making capital improvements to modify recycle location). Collect recycle flow information and retain on file.
June 8, 2006	Complete all capital improvements associated with relocating recycle return location (if necessary).

For States

June 8, 2003	States submit FBRR primacy revision application to EPA (triggers interim primacy).
June 8, 2005	Primacy extension deadline - all states with an extension must submit primacy revision applications to EPA.

What does a recycle notification include?

- ▶ Plant schematic showing origin of recycle flows, how recycle flows are conveyed, and return location of recycle flows.
- ▶ Typical recycle flows (gpm), highest observed plant flow experienced in the previous year (gpm), and design flow for the treatment plant (gpm).
- ▶ State-approved plant operating capacity (if applicable).

What recycle flow information does a system need to collect and retain on file?

- ▶ Copy of recycle notification and information submitted to the state.
- ▶ List of all recycle flows and frequency with which they are returned.
- ▶ Average and maximum backwash flow rates through filters, and average and maximum duration of filter backwash process (in minutes).
- ▶ Typical filter run length and written summary of how filter run length is determined.
- ▶ Type of treatment provided for recycle flows.
- ▶ Data on the physical dimension of the equalization and/or treatment units, typical and maximum hydraulic loading rates, types of treatment chemicals used, average dose, frequency of use, and frequency at which solids are removed, if applicable.

For additional information on the FBRR

Call the Safe Drinking Water Hotline at 1-800-426-4791; visit the EPA web site at www.epa.gov/safewater; or contact your state drinking water representative.

Additional material is available at www.epa.gov/safewater/filterbackwash.html.



Filter Backwash Recycling Rule: *A Rule Summary for Systems*



Office of Water (4606M)
EPA 816-R-02-013
www.epa.gov/safewater
August 2002

This document does not substitute for EPA regulation nor is this document regulation itself. Thus, it cannot impose legally-binding requirements on EPA, States, or the regulated community, and may not apply to a particular situation based upon the circumstances.

Filter Backwash Recycling Rule: A Rule Summary for Systems

BACKGROUND

What is the purpose of the rule?

The Filter Backwash Recycling Rule (FBRR) is intended to reduce the opportunity for recycle practices to adversely affect the performance of drinking water treatment plants and to help prevent microbes, such as *Cryptosporidium*, from passing through treatment systems and into finished drinking water. Customers may become ill if they drink such contaminated water.

Spent filter backwash water, thickener supernatant, and liquids from dewatering processes can contain microbial contaminants, often in very high concentrations. Recycling these streams can reintroduce microbes and other contaminants to the treatment system. Additionally, large volumes of recycle streams may upset treatment processes, allowing contaminants to pass through the system. To minimize these risks, the FBRR requires that recycle streams pass through all the processes of a system's existing conventional or direct filtration system (as defined in 40 CFR 141.2) that the Environmental Protection Agency (EPA) has recognized as capable of achieving 2-log (99 percent) *Cryptosporidium* removal. The FBRR also allows recycle streams to be reintroduced at an alternate location, if the location is State-approved.

What is *Cryptosporidium*?

Cryptosporidium is an intestinal parasite that can be passed through a water treatment plant and into the drinking water supply. Infection can cause gastro-intestinal illness, lasting up to two weeks, and may even be life-threatening for people with weakened immune systems. Several outbreaks of cryptosporidiosis have been traced to *Cryptosporidium* in drinking water. The worst outbreak occurred in Milwaukee in 1993 when more than 400,000 people fell ill with flu-like symptoms. *Cryptosporidium* is difficult to treat (inactivate) because it is resistant to most disinfectants used by water treatment systems. Consequently, other treatment processes, such as sedimentation and filtration, must be effective in removing *Cryptosporidium* oocysts from raw water and recycle streams.

Which systems are affected by the FBRR?

(Rule reference: 40 CFR 141.76(a))

Public water systems that meet **all** of the following criteria are subject to the FBRR:

- \$ The system is a Subpart H system, (i.e. uses surface water or ground water under the direct influence of surface water (GWUDI)).
- \$ The system treats water using conventional or direct filtration. (See the box on page 2 for definitions of conventional and direct filtration.)
- \$ The system recycles one or more of the following: spent filter backwash water, thickener supernatant, or liquids from dewatering processes.

Conventional Filtration

Conventional filtration treatment, as defined in 40 CFR 141.2, is a series of processes including coagulation, flocculation, sedimentation, and filtration resulting in substantial particulate removal. Conventional filtration is the most common type of filtration.

Direct Filtration

Direct filtration, as defined in 40 CFR 141.2, is a series of processes including coagulation and filtration, but excluding sedimentation, and resulting in substantial particulate removal. Typically, direct filtration can be used only with high-quality raw water that has low levels of turbidity and suspended solids.

What are the requirements of the FBRR?

The FBRR has three main components:

1. **Reporting.** The FBRR requires a system to notify the State in writing about its recycle practices if the system is a Subpart H system, practices conventional or direct filtration, and recycles one or more of the regulated recycle streams. More information on reporting is contained in Section 1 beginning on page 3.
2. **Recycle Return Location.** The FBRR requires regulated recycle streams to be returned through all processes of a system's existing conventional or direct filtration system, as defined in 40 CFR 141.2. However, a system may recycle at an alternate location if approved by the State. More information on recycle return location is provided in Section 2 beginning on page 4.
3. **Recordkeeping.** The FBRR includes recordkeeping requirements related to recycling procedures. These requirements are outlined in greater detail in Section 3 beginning on page 6.

Recycle and Regulated Recycle Flows

Recycle – The act of returning recycle streams to a plant's primary treatment process.

Recycle Flows – Any water, solid or semi-solid generated by a plant's treatment processes, operational processes, and residual treatment processes that is returned to the plant's primary treatment process. Also referred to as recycle streams.

Spent Filter Backwash Water – A stream containing particles that are dislodged from filter media when water is forced back through a filter (backwashed) to clean the filter. Spent filter backwash water contains particles including coagulants, metals, and microbes such as *Cryptosporidium*.

Thickener Supernatant – A stream containing the decant from a sedimentation basin, clarifier or other unit that is used to treat water, solids, or semi-solids from the primary treatment processes. The "clear water" that exits the units after particles have been allowed to settle out is thickener supernatant (or sludge thickener supernatant).

Liquids from Dewatering Processes – A stream containing liquids generated from a unit used to concentrate solids for disposal. Processes may consist of centrifuges, filter presses, belt presses, vacuum filters, monofills, or other sludge concentrating equipment. Such equipment may be used to dewater sludge from treatment units used in recycling processes or sludge from units found in the primary processes.

SECTION 1

REPORTING REQUIREMENTS

(Rule reference: 40 CFR 141.76(b))

What information must be submitted to the State?

Each system that uses conventional or direct filtration and recycles spent filter backwash water, thickener supernatant, or liquids from dewatering processes must provide the State with the following written information **by December 8, 2003**:

- \$ A plant schematic showing the origin of all flows which are recycled, how the flows are transported, and the location where the flows are reintroduced back into the treatment process;
- \$ Typical recycle flow, highest observed plant flow experienced in the previous year, and design flow for the treatment plant (all flows must be reported in gallons per minute); and
- \$ The State-approved operating capacity for the plant, if the State has made such a determination.

The submitted data will be evaluated by the State to determine whether the system's current recycle return location is acceptable or if the system must make modifications. A system that fails to submit this information to the State commits a monitoring/reporting violation, which requires Tier 3 public notification (see box below). Failure to notify the public within the appropriate time period is a public notification violation. Table 2 lists the information that must be submitted to the State.

Violations & Public Notification

EPA has assigned each violation and situation requiring public notice to one of three categories, or tiers, based on the risk of adverse health effects. After you learn of a violation or situation, public notice must be provided according to the following requirements:

\$Tier 1 – requires public notice within 24 hours by broadcast media, hand delivery, posting, or another method to reach others.

\$Tier 2 – requires public notification within 30 days by mail, hand delivery, or another method to reach others.

\$Tier 3 – requires public notification within one year by mail, hand delivery, or another method to reach others.

SECTION 2 **RECYCLE RETURN LOCATION**

(Rule reference: 40 CFR 141.76(c))

Why is the point of return for recycle streams important?

Recycle streams must be introduced at a point in the treatment plant that incorporates all treatment processes of a conventional or direct filtration system to reduce the opportunity for recycle practices to adversely affect plant performance. An alternate location may also be approved by the State. The point of introduction should ensure effective mixing and thorough dispersion of the recycle stream with raw water prior to subsequent treatment. The continuous and steady introduction of recycle streams tends to have a much less negative impact on the water treatment process than the sporadic introduction of larger volume recycle streams that vary in quality and quantity.

How can a plant that currently does not return its recycle streams through all treatment processes comply with the FBRR?

A system whose recycle streams currently do not pass through all the direct or conventional treatment plant's unit processes has two options:

- \$ Begin the necessary capital improvements to move the recycle location. Any such capital improvements must be completed by June 8, 2006.
- \$ Request approval of an alternate recycle location. Any requests for alternate recycle locations must be approved by the State no later than June 8, 2004. If capital improvements are required to return recycle streams to a State- approved recycle location, all capital improvements must be completed by June 8, 2006.

What factors will the State consider in deciding whether to approve an alternate location?

Each State has the flexibility to determine the criteria and factors they will utilize in evaluating and approving alternate recycle locations. Examples of factors that a State may use to evaluate requests for alternate recycle locations include (but are not limited to):

- \$ Does the plant require recycle to an alternate recycle location to maintain optimal finished water quality?
- \$ Does the plant have unique treatment requirements or processes that require the return of recycle streams to an alternate location?
- \$ Is the plant in compliance with the turbidity limits established in the Interim Enhanced Surface Water Treatment Rule/Long Term 1 Enhanced Surface Water Treatment Rule?
- What impacts would the use of the alternate recycle location have on treatment processes and finished water quality?

What if a proposed or current alternate recycle location has not received State approval?

If a system returns recycle to a location which does not provide treatment by all conventional or direct filtration processes (as defined in 40 CFR 141.2) without State approval, it commits a treatment technique violation which requires Tier 2 public notification. (See the box on page 3 for a discussion of violation categories.) Failure to notify the public within the appropriate time frame will result in a public notification violation. A system has until June 8, 2004, to receive State approval of its alternate recycle location.

What if a system does not complete capital improvements within the specified time period?

If capital improvements are required to comply, a system must complete such improvements no later than June 8, 2006. A system that does not complete capital improvements by the required date commits a treatment technique violation, which requires Tier 2 public notification. Failure to notify the public within the appropriate time frame is a public notification violation.

Are funds (grants, loans, etc.) available for making capital improvements?

No special funds have been set aside for improvements to meet the FBRR. However, the Drinking Water State Revolving Loan Fund is available to assist in funding infrastructure upgrades that will ensure safe drinking water. More information about the Drinking Water State Revolving Loan Fund is available at www.epa.gov/safewater/dwsrf.html. Systems may also contact the Safe Drinking Water Hotline at 1-800-426-4791, or by e-mail at hotline-SDWA@epa.gov. EPA also provides funding to States that have primary enforcement responsibility for their drinking water programs through the Public Water Systems Supervision (PWSS) grants program. Other Federal funds may be available through the U.S. Department of Housing and Urban Development Community Development Block Grant Program and the Rural Utilities Service of the U.S. Department of Agriculture. Individual States may have other loan or grant programs that could provide additional funding for necessary capital improvements. Contact your State for more information regarding such programs.

**TABLE I:
Recycle Return Location Compliance Schedule**

If:	You Must:	By:
Capital improvements are necessary to relocate the point of recycle return . . .	complete all improvements . . .	June 8, 2006
You are planning to request State approval for use of an alternate location . . .	receive approval from the State . . .	June 8, 2004
You are planning to request State approval for use of an alternate location AND capital improvements are necessary . . .	receive approval from the State for alternate recycle return location . . .	June 8, 2004
	complete all improvements . . .	June 8, 2006
You already return flows through the processes of your existing conventional or direct filtration system . . . (No capital improvements are necessary and you are not seeking approval for an alternate location)	meet only the reporting and record-keeping requirements of the FBRR.	See the Reporting and Recordkeeping Checklist on page 8.

SECTION 3
RECORDKEEPING REQUIREMENTS

(Rule reference: 40 CFR 141.76(d))

What additional data must be collected and maintained?

In addition to the information submitted to the State, a system must collect and maintain the following data to comply with the FBRR.

- \$ A copy of all information that is submitted to the State (see Section 1).
- \$ A list of recycle streams and the frequency with which they are returned.
- \$ Average and maximum backwash flow rates through the filters and the average and maximum durations of the filter backwash process, in minutes.
- \$ Typical filter run length and a written summary of how filter run length is determined (headloss, turbidity, time, etc.).
- \$ The type of treatment provided for the recycle stream **before** it re-enters the conventional or direct filtration process.
- \$ If applicable, data about the physical dimensions of the equalization or treatment units, typical and maximum hydraulic loading rates, type of treatment chemicals used, average dose of chemicals, frequency of chemical addition, and frequency of solids removal.

This information must be collected by June 8, 2004. Systems are not required to submit this information unless requested to do so by the State. However, the information must be retained and made available at the treatment plant for State review during sanitary surveys, Comprehensive Performance Evaluations (CPEs), or other site visit activities. After the State reviews this information, a system may be required to modify its recycling practices. Failure to comply with the reporting requirements is a recordkeeping violation, which requires Tier 3 public notification. Failure to notify the public within the appropriate time frame is a public notification violation. Table 2 provides a list of information the system must collect and retain.

What are other sources of information on the FBRR and other drinking water treatment issues?

A number of documents can be found at www.epa.gov/safewater/filterbackwash.html.

- The Filter Backwash Recycling Rule – This document contains the preamble and regulatory language of the Filter Backwash Recycling Rule, as published in the Federal Register.
- The Filter Backwash Recycling Rule Technical Guidance Manual – This document provides greater detail on many of the topics mentioned in this document.

Copies of these documents may be ordered through EPA's Safe Drinking Water Hotline (1-800-426-4791), the National Service Center for Environmental Publications (1-800-490-9198), or the National Technical Information Service at (1-800-553-6847) or www.ntis.gov.

EPA's Safe Drinking Water Hotline (1-800-426-4791) can also provide general drinking water information. You may e-mail the Safe Drinking Water Hotline at hotline-SDWA@epa.gov. The EPA Office of Ground Water and Drinking Water web page is also a good source of general drinking water information (www.epa.gov/safewater).

**Table 2:
Reporting and Recordkeeping Checklist**

Information Qualifying Systems Must Submit to the State by December 8, 2003	
Plant Schematic	
Origin of recycle streams	
Recycle stream transport	
Point where recycle stream enters treatment train	
Typical recycle flow (in gpm)	
Highest observed plant flow (in gpm) for previous year	
Design flow for treatment plant (gpm)	
State-approved operating capacity	
Information Qualifying Systems Must Collect and Retain Onsite by June 8, 2004	
Copy of information submitted to the State	
List of recycle streams	
Frequency with which recycle streams are returned	
Average backwash flow rate	
Maximum backwash flow rate	
Average duration of filter backwash (in minutes)	
Maximum duration of filter backwash (in minutes)	
Typical filter run length (in minutes)	
How is run length determined (turbidity, time, head loss, other)	
Type of treatment provided for the recycle flow	
Dimensions of equalization unit(s) (if applicable)	
Dimensions of treatment unit(s) (if applicable)	
\$ Typical/average hydraulic loading rates	
\$ Maximum hydraulic loading rates	
\$ Type of treatment chemicals used	
\$ Average dose of chemicals	
\$ Frequency of chemical use	
\$ Frequency of solids removal	

Appendix D

Data Entry Instructions with Examples for the Filter Backwash Recycling Rule

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Acronyms and Abbreviations

CFR	Code of Federal Regulations
DBP	Disinfection Byproduct
DTF	Data Transfer Format
EPA	Environmental Protection Agency
FBRR	Filter Backwash Recycling Rule
FR	Federal Register
gpm	Gallons Per Minute
GWUDI	Ground Water Under the Direct Influence of Surface Water
MCL	Maximum Contaminant Level
M&R	Monitoring and Reporting
M/DBP Cluster	Microbial-Disinfectants/Disinfection Byproducts Cluster
PWS	Public Water System
PWS-ID	Public Water System Identification Number
RTC	Return to Compliance
SDWA	Safe Drinking Water Act
SDWIS/FED	Safe Drinking Water Information System/Federal Version
SDWIS/STATE	Safe Drinking Water Information System/State Version
SNC	Significant Non-Compliance
Subpart H	PWS using surface water or ground water under the direct influence of surface water
TT	Treatment Technique

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Section 1

Introduction

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Introduction

1.1 What is the Purpose of this Guidance Document?

The purpose of this document is to define the reporting requirements and related Safe Drinking Water Information System/Federal Version (SDWIS/FED) Data Transfer Format (DTF) file layout for information required under the Filter Backwash Recycling Rule (FBRR) published in the Federal Register on June 8, 2001 (66 FR 31086). This document addresses the requirements for State reporting to EPA regarding violations of reporting, recycle return location (treatment technique) and recordkeeping, as well as return to compliance data. Such reporting is required under Section 1445 of the Safe Drinking Water Act (SDWA) and 40 CFR 142.15.

In this guidance, the term “State” refers to primacy agencies including both States and Indian Tribes with primacy (e.g., the Navajo Nation).

This guidance document is designed for use by State program officials. However, States may, at their discretion, share components of this guidance with public water systems (PWSs), drinking water laboratories, and others in the drinking water community.

1.2 How is this Document Organized?

The document includes an introduction in Section 1 and three additional sections as follows: Section 2 discusses SDWIS/FED reporting requirements for the FBRR; violation determination; when, where and what to report; and provides five examples of violation types applicable to the FBRR. Section 3 provides SDWIS/FED Data Transmittal information. Section 4 describes additional resources for information on the FBRR.

1.3 What is the Benefit of the FBRR?

The FBRR is part of a series of rules, the “Microbial-Disinfectants/Disinfection Byproducts Cluster” (M-DBP Cluster) that are intended to control microbial pathogens while minimizing the public health risks of disinfectants and disinfection byproducts (DBPs). The FBRR is designed to further protect public health by requiring PWSs, where needed, to institute changes to the return of recycle flows to a plant’s treatment process that may otherwise compromise microbial control.

1.4 What is the General Applicability of the FBRR?

The FBRR applies to PWSs that meet all of the following criteria:

- Subpart H systems (systems using surface water or groundwater under the direct influence of surface water [GWUDI]).
- Employ direct or conventional filtration treatment processes.
- Recycle any of the following:
 - Spent filter backwash.
 - Thickener supernatant.
 - Liquids from dewatering processes.

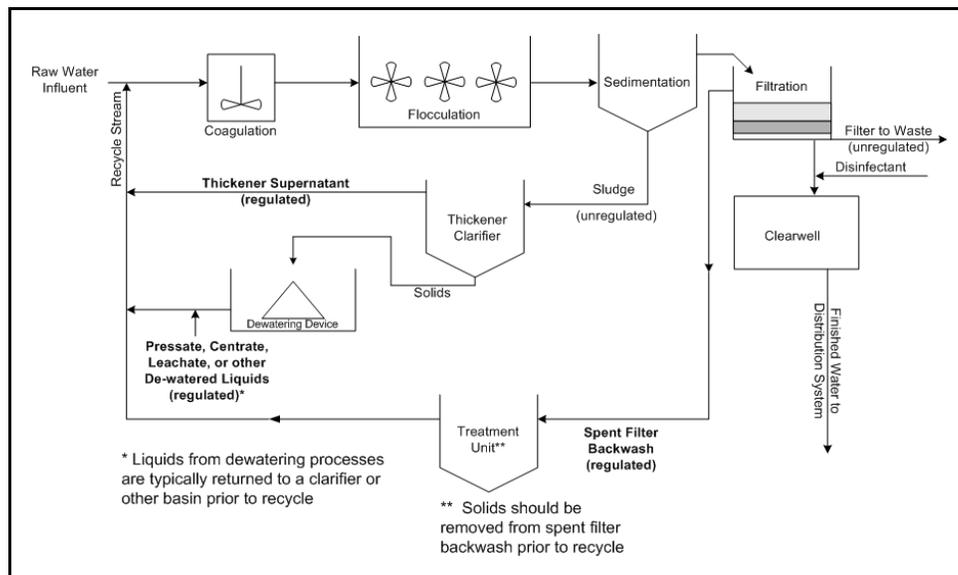
The regulated waste streams are described below and illustrated in Figure 1-1: Recycle Flow Streams. Thickener supernatant and liquids from dewatering processes are not as commonly used in direct filtration plants but are still regulated if recycled at these facilities.

Spent filter backwash is a waste stream containing particles that are dislodged from filter media when water is forced back through a filter (backwashed) to clean the filter. Spent filter backwash water contains particles including coagulants, metals, and microbes such as *Cryptosporidium*. Spent filter backwash water does not include water used in a filter-to-waste process, unless the filter-to-waste water is combined with the spent filter backwash water prior to its return to the plant.

Thickener supernatant (or sludge thickener supernatant) is a waste stream containing the decanted water from a sedimentation basin, clarifier, or other unit used to treat waste streams generated in the water treatment process. Such units may be used to treat spent filter backwash water, or sludge solids or semi-solids from a clarifier or sedimentation basin. The water that exits the units after particles have been allowed to settle out is thickener supernatant.

Liquids from dewatering processes are waste streams containing liquids generated from a unit used to concentrate solids for disposal. Such solids concentration units may consist of centrifuges, filter presses, belt presses, vacuum filters, monofills (sludge-only landfill), or other sludge concentrating equipment. Such equipment may be used to dewater sludge from treatment units used in waste stream treatment processes or sludge from units found in the primary processes.

Figure 1-1. Recycle Flow Streams



1.5 What is SDWIS and How Does it Work?

SDWIS/FED (Safe Drinking Water Information System/Federal Version) is an EPA national database storing routine information about the Nation's drinking water.

States supervise the drinking water systems within their jurisdictions to implement and enforce the SDWA and State and Federal drinking water regulations. The SDWA requires reporting drinking water information periodically to EPA. This information is maintained in SDWIS/FED.

States report the following information to EPA:

- I. Basic information on each water system, including: name, Public Water System Identification Number (PWSID), number of people served, type of system (year-round or seasonal), and source of water (ground water or surface water).
- II. Violation information for each water system: whether it has failed to follow established monitoring and reporting schedules, complied with mandated treatment techniques, or violated any Maximum Contaminant Levels (MCLs).
- III. Enforcement information: what actions States have taken to ensure that drinking water systems return to compliance if they are in violation of a drinking water regulation.
- IV. Monitoring results for unregulated contaminants and for regulated contaminants in certain instances when the monitoring results exceed the MCL.

EPA uses this information to determine if and when it needs to take action against non-compliant systems, oversee State drinking water programs, track contaminant levels, respond to public inquiries, and prepare national reports. EPA also uses this information to evaluate the effectiveness of its programs and regulations, and to determine whether new regulations are needed to further protect public health.

1.6 How is this Document Used?

Primacy Agency personnel should evaluate whether each system needs to comply with the provisions of the FBRR. For those systems required to comply with the FBRR, this document provides information on how to report compliance for each FBRR requirement (e.g., required system reporting to the State, system public notice, and reporting by the State to SDWIS/FED). The descriptions of the example system scenarios in this document include the information necessary to determine compliance with the requirements of the FBRR. Example SDWIS/FED data transfer format (DTF) tables show how the data describing violations of the FBRR are to be encoded to be entered into the SDWIS/FED system.

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Section 2

Federal Reporting Requirements

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Federal Reporting Requirements

This section discusses the SDWIS/FED FBRR reporting requirements for the PWSs to which the FBRR applies. Compliance, violations, follow-up and enforcement actions, and “return to compliance” reporting requirements are defined.

2.1 System Notification to the State (Reporting Requirements)

Under the FBRR, any conventional or direct filtration water treatment plant that uses either surface water or GWUDI and recycles spent filter backwash water, thickener supernatant, or liquids from dewatering processes is required to notify the State in writing by December 8, 2003 that they practice recycling (40 CFR 141.76(b)). Systems must include the following information:

1. A plant schematic showing the origin of all recycle streams including the hydraulic conveyance used to transport the recycled flows and the location where they are recycled back into the plant;
2. The typical recycle flow (in gallons per minute [gpm]);
3. The highest observed plant flow experienced in the previous year (in gpm);
4. The water treatment plant design flow (in gpm); and
5. The State-approved operating capacity for the plant (if the State has made that determination).

Additional information including treatment or equalization of the recycle stream, operational practices such as when the recycle stream is introduced into the main line (e.g., during minimum plant flow), changes in the main treatment process to accommodate recycle flows such as increased chemical addition, and any other pertinent information regarding recycle streams may also be submitted with the required information to assist States in understanding the affects recycle streams have on individual systems.

2.2 FBRR Recycle Return (Treatment Technique) Requirements

Any conventional or direct filtration water treatment plant that recycles spent filter backwash water, thickener supernatant, or liquids from dewatering processes is required by the FBRR to return these streams to a defined location by June 8, 2004 (40 CFR 141.76(c)). More specifically, systems are required to direct recycled streams to a location that allows the recycled water to be processed by each unit operation of a direct or conventional filtration system as defined in 40 CFR 141.2 or to an alternate location approved by the State.

Systems that already have their recycle stream return line in an acceptable location, whether it be before a direct or conventional filtration treatment train or an alternate location approved by the State, will be compliant with the recycle return requirement (referred to in the remainder of the document as the treatment technique [TT] requirement). However, if capital improvements are required in order to be in compliance under the TT requirement, the FBRR allows systems an additional 24 months from the original requirement date of June 8, 2004 to make the appropriate improvements. Therefore, capital improvements must be completed by June 8, 2006 to comply with the FBRR.

2.3 Recordkeeping Requirement

Beginning June 8, 2004, systems must collect, and retain on file, recycle flow information for review and evaluation by the State (40 CFR 141.76(d)). The information includes:

1. A copy of the recycle notification and information submitted to the State under 40 CFR 141.76(b);
2. A list of all recycle flows and frequency with which they are returned, the average and maximum backwash flow rate through the filters and the duration of the filter backwash process (in minutes);
3. Typical filter run lengths (in minutes) and a written summary of how filter run-length is determined;
4. The type of treatment provided for the recycle flow; and
5. The data describing on the treatment process used for recycle flows, including the physical dimensions of the equalization and/or treatment units, the typical maximum hydraulic loading rates, the types of treatment chemicals used and the average dose and frequency of use, and solid removal frequencies, if applicable.

The FBRR does not directly specify the length of time files should be kept on record. However, files should be kept for the length of time required by the State or at least until State officials have the opportunity to review them such as during a sanitary survey or other inspection/activity. EPA does recommend that recycle flow information be retained on file for a minimum of 10 years.

2.4 FBRR Violations

In general, SDWIS/FED accepts the entry of a violation only one time, for each type of violation, for each compliance period — even though the PWS may have had multiple violations of the same type and for the same compliance period. State files must maintain a record of each of the PWS's multiple FBRR violations. Since all the FBRR violations are defined as open-ended, (i.e., the water system is out of compliance until it meets “returned to compliance” criteria), then in most situations, only one violation is to be reported per water system, when incurred.

States must report monitoring and reporting (M&R), TT, and recordkeeping violations to SDWIS/FED within 45 days of the end of the quarter in which the State learns of the violation. Tables 2-1a and 2-1b provide guidance about the violation fields that need to be reported for each of the violations. This section of the document provides details for construction of the violation transactions for transmission to EPA. Additional detailed transaction coding instructions are contained in the *SDWIS/FED Data Entry Instructions*.

Table 2-1a. Types of Violations Applicable to the FBRR

Violation Definition	Description	Major/ Minor	Violation Type	Details
Type 39/0500 A failure to provide written notification to the State, including all required elements of information, that regulated waste streams are recycled (that the facility practices recycling of regulated waste streams).	Report one violation per water system.	Major	Monitoring & Reporting	Report the statute's effective date of December 8, 2003 for system reporting requirements as the Compliance Period Begin Date. Do not report a Compliance Period End Date until the date is known and then report it as a "returned to compliance" enforcement action and link it to the original M&R violation.
Type 40/0500 A failure to return recycled flows through all process elements of a system's existing conventional or direct filtration system (as defined in 40 CFR 141.2) or to an alternative process location properly approved by the State no later than June 8, 2004.	Report one violation per water system.	N/A	Treatment Technique	Report the statute's effective date of June 8, 2004 for system reporting requirements as the Compliance Period Begin Date. Do not report a Compliance Period End Date until the date is known and then report it as a "returned to compliance" enforcement action and link it to the original TT violation.
Type 40/0500 A failure to complete, by no later than June 8, 2006, the capital improvements required to modify the recycle location to return recycle flows through all process elements (as defined in 40 CFR 141.2) or to a State-approved alternative location.	Report one violation per water system.	N/A	Treatment Technique	Report the statute's effective date of June 8, 2006 for system reporting requirements as the Compliance Period Begin Date. Do not report a Compliance Period End Date until the date is known and then report it as a "returned to compliance" enforcement action and link it to the original TT violation.
Type 09/0500 A failure to collect and retain on file for inspection by the State recycle flow information as described in 40 CFR 141.76, beginning no later than June 8, 2004.	Report one violation per water system.	N/A	Recordkeeping	Failure to collect and retain on file certain recycle flow information.

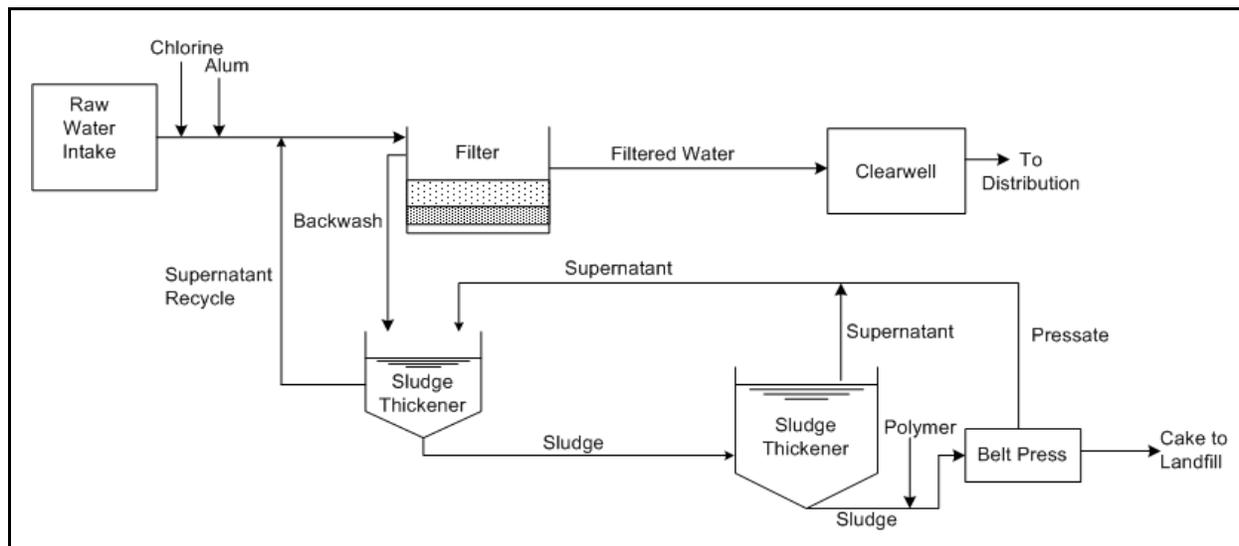
Table 2-1b. FBRR - SDWIS/FED Violation Entry Information

Violation Description	Type of Violation	Contaminant Code (C1103)	Type Code (C1105)	Compliance Period Begin Date (C1107)	Compliance Period End Date (C1109)	Major Violation Indicator (C1131)
A failure to provide written notification to the State, including all required elements of information, that regulated waste streams are recycled (that the facility practices recycling of regulated waste streams).	M&R	0500	39	12/8/2003 (20031208)	Do not report an end date. When the water system meets the returned to compliance criteria, enter the returned to compliance enforcement action and link it to the original violation.	Always major
A failure to return recycled flows through all process elements of a system's existing conventional or direct filtration system (as defined in 40 CFR 141.2) or to an alternative process location properly approved by the State no later than June 8, 2004.	TT	0500	40	6/8/2004 (20040608)	Do not report an end date. When the water system meets the returned to compliance criteria, enter the returned to compliance enforcement action and link it to the original violation.	Do not report
A failure to complete, by no later than June 8, 2006, the capital improvements required to modify the recycle location to return recycle flows through all process elements (as defined in 40 CFR 141.2) or to a State-approved alternative location.	TT	0500	40	6/8/2006 (20060608)	Do not report an end date. When the water system meets the returned to compliance criteria, enter the returned to compliance enforcement action and link it to the original violation.	Do not report
A failure to collect and retain on file for inspection by the State recycle flow information as described in 40 CFR 141.76, beginning to later than June 8, 2004.	Record-keeping	0500	09	6/8/2004 (20040608)	Do not report an end date. When the water system meets the returned to compliance criteria, enter the returned to compliance enforcement action and link it to the original violation.	Do not report

The SDWIS/FED filter backwash recycle contaminant code for violation reporting is 0500. Types of violations for the FBRR are described in the following sections.

System A is used as an example to illustrate various types of M&R, TT, and recordkeeping violations in the following sections. System A recycles spent filter backwash water, liquids from dewatering processes, and thickener supernatant to a location in the treatment process which is after coagulation but prior to the filtration unit process in this filtration plant (Figure 2-1).

Figure 2-1. System A Water Treatment Plant



2.4.1 Monitoring & Reporting (M&R) Violations

General Discussion of Monitoring and Reporting (M&R) Violations

Because M&R requirements relate to gathering and reporting information, the violation associated with the system notification to the State requirement (also known as the reporting requirement) is defined as a M&R violation. SDWIS/FED M&R violations are expressed with severity indicators of **Major** or **Minor**. There are no Minor M&R violations associated with the FBRR.

M&R violations of the FBRR are reported for Subpart H systems that have failed to notify the State in writing by December 8, 2003 if they employ conventional filtration or direct filtration treatment and recycle spent filter backwash water, thickener supernatant, or liquids from dewatering processes in accordance with 40 CFR 141.76(b)(1)&(2). An M&R violation for the FBRR is incurred when a system fails to submit the written notification with all the required information described in Section 2.4 of this document by December 8, 2003.

The contaminant code 0500 is utilized for the FBRR violations reported to SDWIS/FED. Only one M&R violation may be reported for a water system for each violation type.

In SDWIS/FED, the FBRR M&R violations will have a beginning date of December 8, 2003. The ending date is considered “open ended” until the system meets the FBRR requirement and is based on the return to compliance (RTC) definition (Section 2.6).

Table 2-2. M&R Violations Under the FBRR

Violation Code	Contaminant Code	Monitoring and Reporting Violations	Section Where Discussed in This Document
39	0500	Major: Failure to notify the State in writing and include all informational elements by December 8, 2003 if the system employs conventional filtration or direct filtration treatment and recycles spent filter backwash water, thickener supernatant, or liquids from dewatering processes.	Section 2.4

Example 2-1. M&R Violation

The State Agency reviewed their files on January 1, 2004 and determined that System A (SA1234567) had not submitted the required notification, in writing, to the State that they were recycling spent filter backwash, thickener supernatant, and liquids from the dewatering process by the reporting requirement deadline of December 8, 2003.

Violation Determination:

System A failed to submit notification to the State by December 8, 2003 that they are recycling. As a result, the system has incurred a M&R violation. Under the FBRR, all M&R violations are considered Major.

The State would then report the following violation information:

- FBRR Major M&R Violation incurred in December of 2003.

Return To Compliance:

System A submits the notification in writing with additional required information on February 26, 2004 and is returned to compliance.

The DTF transactions for the violation and RTC are shown in Exhibit 2-1.

Exhibit 2-1. DTF for Example 2-1. M&R Violation

Data Elements:

Number	Name	Value or Comment
C0101	PWS-ID	<i>Qualifier 1</i>
C1101	Violation ID	<i>Qualifier 2</i>
C1103	Contaminant	0500
C1105	Violation Type	39
C1107	Compliance Period Begin Date	20031208
C1109	Compliance Period End Date	A date should not be provided with the original violation report to SDWIS/FED. SDWIS/FED processing will generate a default date of 12/31/2015. When the State has determined that the PWS has returned to compliance, then the State should submit a “returned to compliance” enforcement action and link it to the original monitoring and reporting violation. The date of the action should be the date the State made that determination. SDWIS/FED processing will modify the end date of the original violation to be the same date as the “returned to compliance” reported.
C1203	Enforcement Action Date	20040226
C1205	Enforcement Follow-Up Action	SOX (<i>Returned to compliance</i>)
Y5000	Associated Violation ID	0411222

DTF Transactions:

1-2	3-11	12-18	19-25	26	27-31	32-71	72-74	75-80
D1	SA1234567	411222		I	C1103	0500		
D1	SA1234567	411222		I	C1105	39		
D1	SA1234567	411222		I	C1107	20031208		
E1	SA1234567	400359		I	C1203	20040226		
E1	SA1234567	400359		I	C1205	SOX		
E1	SA1234567	400359		I	Y5000	411222		

Example 2-2. M&R Violation

On December 1, 2003 System A submitted notification, in writing, to the State that they were recycling spent filter backwash water, thickener supernatant and liquids from dewatering processes and included the required schematic of recycle streams and water treatment plant design flow information. However, on January 15, 2004 the State reviewed the system's files and became aware that the system had failed to submit the typical recycle flow information and the State-approved operating capacity of the plant. The State notified System A of the missing information on January 15, 2004.

Violation Determination:

Although System A met the December 8, 2003 deadline for notification, System A failed to include all of the required information when it submitted notification to the State that they were recycling. As a result, the system has incurred an M&R violation. Under the FBRR, all M&R violations are considered Major.

The State would then report the following violation information:

- FBRR Major M&R Violation incurred in December of 2003.

Return To Compliance:

System A resubmits the notification in writing with all of the additional required information, including the typical recycle flow information and the State-approved operating capacity for the plant on March 1, 2004 and is returned to compliance.

The DTF transactions for the violation and RTC are shown in Exhibit 2-2.

Exhibit 2-2. DTF for Example 2-2. M&R Violation

Data Elements:

<u>Number</u>	<u>Name</u>	<u>Value or Comment</u>
C0101	PWS-ID	<i>Qualifier 1</i>
C1101	Violation ID	<i>Qualifier 2</i>
C1103	Contaminant	0500
C1105	Violation Type	39
C1107	Compliance Period Begin Date	20031208
C1109	Compliance Period End Date	A date should not be provided with the original violation report to SDWIS/FED. SDWIS/FED processing will generate a default date of 12/31/2015. When the State has determined that the PWS has returned to compliance, then the State should submit a “returned to compliance” enforcement action and link it to the original monitoring and reporting violation. The date of the action should be the date the State made that determination. SDWIS/FED processing will modify the end date of the original violation to be the same date as the “returned to compliance” reported.
C1203	Enforcement Action Date	20040301
C1205	Enforcement Follow-Up Action	SOX (<i>Returned to compliance</i>)
Y5000	Associated Violation ID	0400012

DTF Transactions:

1-2	3-11	12-18	19-25	26	27-31	32-71	72-74	75-80
D1	SA1234567	400012		I	C1103	0500		
D1	SA1234567	400012		I	C1105	39		
D1	SA1234567	400012		I	C1107	20031208		
E1	SA1234567	400903		I	C1203	20040301		
E1	SA1234567	400903		I	C1205	SOX		
E1	SA1234567	400903		I	Y5000	400012		

2.4.2 Treatment Technique (TT) Violations

General Discussion of Treatment Technique Violations

Treatment technique violations are reported for any one of a number of required actions which a water system fails to take, when it fails to meet prescribed performance standards, or when it performs incorrectly or incompletely. All FBRR violations are reported as violations of the FBRR, rather than of a specific contaminant. The contaminant code 0500 is utilized for the FBRR violations reported to SDWIS/FED.

Table 2-3. TT Violations Under the FBRR

Violation Code	Contaminant Code	Treatment Technique Violations	Section Where Discussed in This Document
40	0500	Failure to return recycled flows through the processes of the system's existing conventional or direct filtration system (as defined in §141.2) or at an alternative location properly approved by the State by June 8, 2004.	Section 2.4
40	0500	Failure to complete, by June 8, 2006, the capital improvements required to modify the recycle location to return recycle flows to the processes of its conventional or direct filtration system (as defined in §141.2) or at an alternative location. The alternative location must be approved by the State and construction of that location must be completed by June 8, 2006.	Section 2.4

In accordance with 40 CFR 141.76(c), Subpart H systems that employ conventional filtration or direct filtration treatment and recycle spent filter backwash water, thickener supernatant, or liquids from dewatering processes are required to return the recycled stream to a defined location or location approved by the State.

In SDWIS/FED, FBRR TT violations will have a beginning date on or after June 8, 2004 for systems not requiring capital improvements and on or after June 8, 2006 for systems needing capital improvements to meet the requirement. The ending date is considered "open ended" until the system meets the FBRR requirement and is based on the RTC definition (Section 2.6).

Example 2-3. TT Violation

The State Agency conducted a sanitary survey, reviewed their files July 1, 2004 and determined that System A is recycling spent filter backwash, thickener supernatant, and liquids from dewatering processes through a location that is not before all processes of the direct filtration treatment train, as shown in Figure 2-1. The system has not obtained State approval for use of an alternative recycling location and is not pursuing capital improvements.

Violation Determination:

System A failed to recycle the regulated streams at a location that incorporates all direct filtration processes and did not receive State approval by June 8, 2004 for an alternate recycle return location. The system has incurred a TT violation.

The State would then report the following violation information:

- FBRR TT Violation incurred in June of 2004.

Return To Compliance:

System A submitted an application for an alternate recycle location after the sanitary survey and obtained State approval for the alternative location on August 10, 2004. System A is returned to compliance on August 10, 2004.

The DTF transactions for the violation and RTC are shown in Exhibit 2-3.

Exhibit 2-3. DTF for Example 2-3. TT Violation

Data Elements:

Number	Name	Value or Comment
C0101	PWS-ID	<i>Qualifier 1</i>
C1101	Violation ID	<i>Qualifier 2</i>
C1103	Contaminant	0500
C1105	Violation Type	40
C1107	Compliance Period Begin Date	20040608
C1109	Compliance Period End Date	A date should not be provided with the original violation report to SDWIS/FED. SDWIS/FED processing will generate a default date of 12/31/2015. When the State has determined that the PWS has returned to compliance, then the State should submit a “returned to compliance” enforcement action and link it to the original treatment technique violation. The date of the action should be the date the State made that determination. SDWIS/FED processing will modify the end date of the original violation to be the same date as the “returned to compliance” reported.
C1203	Enforcement Action Date	20040810
C1205	Enforcement Follow-Up Action	SOX (<i>Returned to compliance</i>)
Y5000	Associated Violation ID	0401234

DTF Transactions:

1-2	3-11	12-18	19-25	26	27-31	32-71	72-74	75-80
D1	SA1234567	401234		I	C1103	0500		
D1	SA1234567	401234		I	C1105	40		
D1	SA1234567	401234		I	C1107	20040608		
E1	SA1234567	400251		I	C1203	20040810		
E1	SA1234567	400251		I	C1205	SOX		
E1	SA1234567	400251		I	Y5000	401234		

Example 2-4. TT Violation

As shown in Figure 2-1, System A is NOT recycling their recycle streams prior to or at the point of coagulation, therefore, their recycle location is an alternate location. The system applied to the State on May 12, 2004 for approval of an alternate location, but the State denied approval for the alternate location. Capital improvements are required to re-locate the chlorine and alum addition with rapid mix to a point downstream of the recycle stream return location. When capital improvements are needed, the FBRR requires the system to complete capital improvements by June 8, 2006. On June 20, 2006, the system notified the State that it would not complete the capital improvements until late September 2006. On September 30, 2006 the State reviewed a sanitary survey of System A performed September 25, 2006. During the review, the State learned that the capital improvements had been completed on September 22, 2006.

Violation Determination:

System A failed to complete capital improvements by June 8, 2006. Therefore, the system has incurred a TT violation.

The State would then report the following violation information:

- FBRR TT Violation incurred in June of 2006.

Return To Compliance:

System A completed all capital improvements by September 22, 2006 and is returned to compliance.

The DTF transactions for the violation and RTC are shown in Exhibit 2-4.

Exhibit 2-4. DTF for Example 2-4. TT Violation

Data Elements:

Number	Name	Value or Comment
C0101	PWS-ID	<i>Qualifier 1</i>
C1101	Violation ID	<i>Qualifier 2</i>
C1103	Contaminant	0500
C1105	Violation Type	40
C1107	Compliance Period Begin Date	20060608
C1109	Compliance Period End Date	A date should not be provided with the original violation report to SDWIS/FED. SDWIS/FED processing will generate a default date of 12/31/2015. When the State has determined that the PWS has returned to compliance, then the State should submit a “returned to compliance” enforcement action and link it to the original treatment technique violation. The date of the action should be the date the State made that determination. SDWIS/FED processing will modify the end date of the original violation to be the same date as the “returned to compliance” reported.
C1203	Enforcement Action Date	20060922
C1205	Enforcement Follow-Up Action	SOX (<i>Returned to compliance</i>)
Y5000	Associated Violation ID	0602123

DTF Transactions:

1-2	3-11	12-18	19-25	26	27-31	32-71	72-74	75-80
D1	SA1234567	602123		I	C1103	0500		
D1	SA1234567	602123		I	C1105	40		
D1	SA1234567	602123		I	C1107	20060608		
E1	SA1234567	600416		I	C1203	20060922		
E1	SA1234567	600416		I	C1205	SOX		
E1	SA1234567	600416		I	Y5000	602123		

2.4.3 Recordkeeping Violations

General Discussion of Recordkeeping Violations

Under the FBRR, one type of recordkeeping violation is reported to SDWIS/FED. A recordkeeping violation is incurred when a system fails to collect or retain on file any of the recycle flow information described in Section 2.3 of this document beginning June 8, 2004. In accordance with 40 CFR 141.76(d)(1) - (6), systems must collect and retain on file recycle flow information for review and evaluation by the State beginning June 8, 2004. All FBRR violations are reported as violations of the FBRR, rather than of a specific contaminant. The contaminant code 0500 is utilized for the FBRR violations reported to SDWIS/FED.

Table 2-4. Recordkeeping Violations Under the FBRR

Violation Code	Contaminant Code	Recordkeeping Violations	Section Where Discussed in This Document
09	0500	Failure to collect and retain on file recycle flow information beginning June 8, 2004.	Section 2.4

In SDWIS/FED, FBRR recordkeeping violations will have a beginning date on or after June 8, 2004. The ending date is considered “open ended” until the system meets the FBRR requirement and is based on the RTC definition (Section 2.6).

Example 2-5. Recordkeeping Violation

During a sanitary survey performed on July 10, 2004 the State determines that System A has not been collecting or retaining recycle information on file.

Violation Determination:

System A failed to collect and retain recycle information on file beginning June 8, 2004. As a result, the system has incurred a recordkeeping violation.

The State would then report the following information:

- FBRR Recordkeeping Violation incurred in June of 2004.

Return To Compliance:

During a follow-up inspection on December 5, 2004 (the next inspection activity to take place at System A), the State determined that recycle information had been collected and retained since October 3, 2004. Therefore, the system is returned to compliance.

The DTF transactions for the violation and RTC are shown in Exhibit 2-5.

Exhibit 2-5. DTF for Example 2-5. Recordkeeping Violation

<u>Data Elements:</u>		
<u>Number</u>	<u>Name</u>	<u>Value or Comment</u>
C0101	PWS-ID	<i>Qualifier 1</i>
C1101	Violation ID	<i>Qualifier 2</i>
C1103	Contaminant	0500
C1105	Violation Type	09
C1107	Compliance Period Begin Date	20040608
C1109	Compliance Period End Date	A date should not be provided with the original violation report to SDWIS/FED. SDWIS/FED processing will generate a default date of 12/31/2015. When the State has determined that the PWS has returned to compliance, then the State should submit a “returned to compliance” enforcement action and link it to the original recordkeeping violation. The date of the action should be the date the State made that determination. SDWIS/FED processing will modify the end date of the original violation to be the same date as the “returned to compliance” reported.
C1203	Enforcement Action Date	20041003
C1205	Enforcement Follow-Up Action	SOX (<i>Returned to compliance</i>)
Y5000	Associated Violation ID	0412322

2.5 FBRR Violation Codes

The SDWIS/FED violation type code, name and descriptions applicable to the FBRR are listed in Table 2-1a.

For each filter backwash recycling violation listed in Table 2-1a, the State must report the following data to SDWIS/FED. Section 3 - SDWIS/FED Data Transmittal explains these data elements in more detail.

- A PWS-ID for the water system that has incurred the violation
- A unique violation ID
- A code identifying the contaminant for which the violation applies - 0500 for FBRR
- A code describing the type of violation - 39, 40, or 09 for M&R, TT, and recordkeeping violations respectively.
- Calendar date of the beginning of the compliance period
- For M&R violations only, a code designating whether the violation is Major or Minor - the FBRR M&R code must be designated as Major in all instances.

2.6 Returned to Compliance and Enforcement Actions

When a system incurs a M&R, TT, or recordkeeping violation has been incurred, it must be reported to SDWIS/FED. In addition, the State must report that a system has returned to compliance within 45 days of the end of the quarter in which the State determines that the violation has been appropriately resolved. Return To Compliance (RTC) is defined for an M&R violation as a system that is reporting in accordance with requirements. RTC is defined for a TT violation as the date that the recycle stream return location is moved to the required location (including any necessary capital improvements, if applicable) in accordance with the requirements. RTC is defined for a recordkeeping violation as a system that is collecting and retaining recycle flow information in accordance with the requirements.

In addition, all formal enforcement actions taken against systems in violation of the FBRR are required to be reported to SDWIS/FED. Both “returned to compliance” and formal enforcement actions must be linked to the specific violation(s) they address. The following describes the appropriate ways in which enforcement and follow-up actions, both formal and informal (including returned to compliance), may be linked to FBRR violations.

2.6.1 Associated Violation IDs (Y5000) - Federal Fiscal Year (FY) & Violation ID Number

Entering the specific violation ID(s) to which the enforcement action is related will establish a link between the enforcement record and each violation record matching the specific violation ID. If no links are established (reported violation IDs not found/matched on the data base) the enforcement record will be rejected.

Refer to the *SDWIS/FED Data Entry Instructions* for more detailed information.

2.7 Public Notice

Systems must provide public notice for violations. FBRR M&R violations and recordkeeping violations require a Tier 3 public notice (40 CFR 141.204(a)) to be provided as soon as practicable, but no later than 12 months after the system learns of the violation (40 CFR 141.204(b)(1)). Tier 3 notices are to be repeated annually for as long as the violation or situation exists. The public notice can also be included in the system's annual Consumer Confidence Report detailing all violations and situations that occurred during the previous twelve months, as long as the report is available within 12 months of when the system learns of the violation (40 CFR 141.204(b)(2)).

FBRR TT violations require a Tier 2 public notice (40 CFR 141.203(a)) to be provided as soon as practicable, but no later than 30 days after the system learns of the violation. The public notice must be repeated every three months as long as the violation persists, unless the State determines a different frequency in writing (40 CFR 141.203(b)).

Within ten days of completing the public notification requirements under 40 CFR Subpart Q, the PWS must certify to the State "that it has fully complied with the public notification regulations" and include a representative copy of each type of notice distributed, published, posted and made available to the persons served by the system and to the media (40 CFR 141.31(d) as revised May 4, 2000 (65 FR 25982)).

Refer to the *Final State Implementation Guidance for the Public Notification Rule* (EPA-816-R-01-010, October 2001) for more detailed information.

2.8 Significant Non-Compliance (SNC)

A Public Water System (PWS) is in significant noncompliance of the SDWA Filter Backwash Recycling Rule (FBRR) if it violates the requirements of the rule by a:

- Failure to recycle at an approved location by June 8, 2004, or
- Failure to make the required capital improvements by June 8, 2006.

Return to Compliance (RTC) is accomplished by the public water system's recycling of all regulated recycling streams to an approved location, or finalization of the required capital improvements.

Refer to the *SDWIS/FED Data Entry Instructions* and the *SDWIS/FED Significant Non-Compliance Specifications* for more detailed information.

Section 3

SDWIS/FED Data Transmittal

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SDWIS/FED Data Transmittal

3.1 Data Transfer Format (DTF) Format

The DTF is the only format by which data can be entered into the SDWIS/FED data base.

Each DTF record is 80 characters in length and has the following format:

Definition	Positions	Example
Form ID	1 - 2	D1 <u>or</u> E1*
Qualifier 1	3 - 11	PWS-ID
Qualifier 2	12 - 18	VIOLATION-ID
Qualifier 3	19 - 25	
Action Code	26	D, I, or M**
Data Element Number	27 - 31	Cnnnn
Data Value	32 - 71	
Reserved for SDWIS/FED	72 - 74	
Batch Sequence Number	75 - 80	NNNNNN***

* D1 is Violation Data, E1 is Enforcement Data

** D = DELETE, I = INSERT, and M = MODIFY

*** A format of MMDDYY is highly recommended

Table 3-1. SDWIS/FED DTF Format

Form ID	Data Address Qualifiers			Act. Code	Data Elem. Num.	Data Value	N/A	Batch Sequence Number
	Qual 1	Qual 2	Qual 3					
37622	3-11	12-18	19-25	26	27-31	32-71	72-74	75-80

The following table presents the SDWIS/FED violation record data elements for reporting FBRR violations.

Table 3-2. SDWIS/FED DTF C1100 - Violation Record Data Elements

DTF Number	Format	Description	Permissible Values
C101	Character 9	PWS-ID	Must be included within SDWIS/FED inventory
C1101	Character 7	Violation ID	Characters 1 & 2 must be the Federal FY in which the State became aware of the violation
C1103	Character 4	Contaminant Code	0500 - Filter Backwash Recycling
C1105	Character 2	Violation Type Code	39 - M&R 40 - TT 09 - Recordkeeping
C1107	Date 8 (YYYYMMDD)	Compliance Period Begin Date	Date compliance period begins
C1109	Date 8 (YYYYMMDD)	Compliance Period End Date	Date compliance period ends
C1131	Character 1	Major Violation Flag Code	Y - Yes for Major

Section 4

Sources of Additional Information

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Sources of Additional Information

4.1 User Support and Other Resources

Additional technical information on SDWIS/FED reporting information can be obtained by contacting SDWIS/FED User Support at (703) 292-6121 or from the following resources:

- *Implementation Guidance for the Filter Backwash Recycling Rule* (EPA-816-R-03-020, December 2003)
- *Filter Backwash Recycling Rule: A Rule Summary for Systems* (EPA 816-R-02-013, June 2002)
- *Filter Backwash Recycling Rule Technical Guidance Manual* (EPA 816-R-02-014, December 2002)
- *Final State Implementation Guidance for the Public Notification Rule* (EPA-816-R-01-010, October 2001)
- *Consolidated Summary of State Reporting Requirements for the Safe Drinking Water Information System (SDWIS)*
- *SDWIS/FED Data Entry Instructions*
- *SDWIS/FED Online Data Dictionary*
- *SDWIS/FED Significant Non-Compliance Specifications*

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